Masthead Logo

Latham Science Communication Project

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S.T.E.A.M. Career Night

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S.T.E.A.M Career Night: Making the path

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When scientists, healthcare specialists, and other STEM related experts are portrayed by the media and on television, they seem condescending, smart, and sometimes unapproachable. For people who may never have the chance to repeatedly interact with STEM professionals, such as minorities, this may create a viewpoint that careers in those fields are for the elite this may even drive audiences to ignore or completely avoid information from scientific fields. In terms of careers, parents may be prone to push kids away from the sciences, if they themselves feel uncomfortable with it. For this reason, friendlier approaches must be made to attract students and parents to the field. The main goals were to increase minority participation in the sciences and most importantly show children, between the ages of 10 and 13, and parents that a career in science can be for anyone. By integrating the arts, and allowing kids and parents to interact with professionals who have vastly differing careers, I hoped to accomplish this.

Implementation

Working closely with the Multi-Ethnic Engineering and Science Association and the department of Engineering, I quickly secured both a group of students, and a venue. After many meetings with Tracy Peterson, the Director of Diversity Programs and K-12 Outreach for the college of Engineering, we set dates for the MESA tutoring nights to be supplanted by two career nights for the children. Usual programming includes tutoring by MESA tutors, and free dinner provided by MESA. For my event, we modified the time frames, to have external speakers give demonstrations and interact with the kids, held in a classroom provided by the college of Engineering.

In reaching out to speakers, I used connections that I had previously established, to highlight three people who I thought would represent best what my event was about. Having closely worked with Dr. Emily Schoerning, the Director of Community Organizing and Research for NCSE, she served as not only a great resource for planning the event, but was extremely useful as someone who actively develops and employs new and distinct methods to communicate science.

Dr. Bryant McAllister, an Associate professor in the Department of Biology and Director of the Personal Genome Learning Center, was critical because of the many roles that he plays which include conducting research, teaching, and directing an outreach program.

Richard Lewis, a science writer at the University of Iowa, was the third member of my panel. He was the perfect bridge between the intricacies of scientific research and how the public perceives science in the world. With his ability to explain and tell stories about science, he is exceptionally talented at making science more approachable and understandable.

Career Night

The night of the event started with an introduction to both the children and the parents about the programming that would take place that evening. For the first half hour of the event, each speaker had the opportunity to demonstrate aspects of what their jobs entail to the kids.

Fig1. Dr. Schoerning working with students to show the environmental factors that can lead to decline or conservation of monarch butterfly populations. Using a foosball table the kids can drive the populations "foosballs" to conservation or extinction by scoring goals.

Fig2. Caroline and Lidija, Iowa City science booster volunteers, demonstrate how CO2 emissions can acidify ocean environments and negatively impact marine life.

Fig1. Dr. McAllister shows a group of students *Drosophila americana*, sister species to *Drosophila melanogaster* a model organism for lots of sub-fields in biology.

Richard Lewis brought in props to tell his story, which included fossils, and displayed an article he had previously written on centered on human evolution.

After the children directly interacted with the professionals, they had mini-lectures by each speaker. Each focused some on the path and choices that led them to their current career, as well as what their jobs entail and how science has affected their lives. Following the lectures students were given the opportunity to ask questions to each of the speakers about anything they wanted. This of course led to some interesting discussions and requests, one which included the question of which of the speakers knew famous nature show hosts Chris and Martin, the Kratt brothers, while some called for the speakers to "dab on em".

Impact

Having known and personally worked with these children in years past, I know just how great of an experience this was going to be for them. Personally, growing up with no real role models and without the opportunity to interact with professionals at a young age, coming to college learning all this later felt like set back. When the opportunity to give back to the class of 20 students was given to me, I knew that it was the least I could do to alter the aspects in science that I currently feel are holding minorities back. After collecting cards that the kids wrote to the presenters, I was extremely pleased with the turnout, and the initial impact the event seemed to have. Some of the quotes from the student thankyou cards:

-"The most interesting was about the story of the Neanderthals and how they didn't have chins."

-"Thank you for coming. I liked your foosball table. I liked when you talked about dangerous disasters to butterflies. Also thank you for the pins."

-"I love that you went out of your way to come and teach all of us."

-"Thank you for everything I enjoyed everything I hope you can come back again. ps/ dare you to dab!"

Thanks to funding and donations by the Latham family, University of Iowa Community Credit Union, and Blick Art Materials, I could provide each of the kids with gifts. Thanks to MESA, college of Engineering, Iowa City Science Booster club, and all the volunteers, the event ran smoothly and the students could enjoy themselves.

Future Directions & Conclusions

The project is something that can be sustained by myself outside of the fellowship, or can be passed on to future Latham fellows. If relationships with partners are maintained and different speakers are invited each time, the event should be able to run smoothly and annually.

In conclusion, the event was deemed a success, but I did learn very much about the process of event planning, that made the event even more successful. I learned that no matter how much planning you make ahead of time, you must be prepared to make last minute adjustments and that you should set big goals for project but understand that somethings will not happen as planned, so back-up ideas are a must. Overall the event was extremely fun to plan, and watching the kids enjoy themselves is one of the most rewarding feeling I have ever experienced